Figure 1A

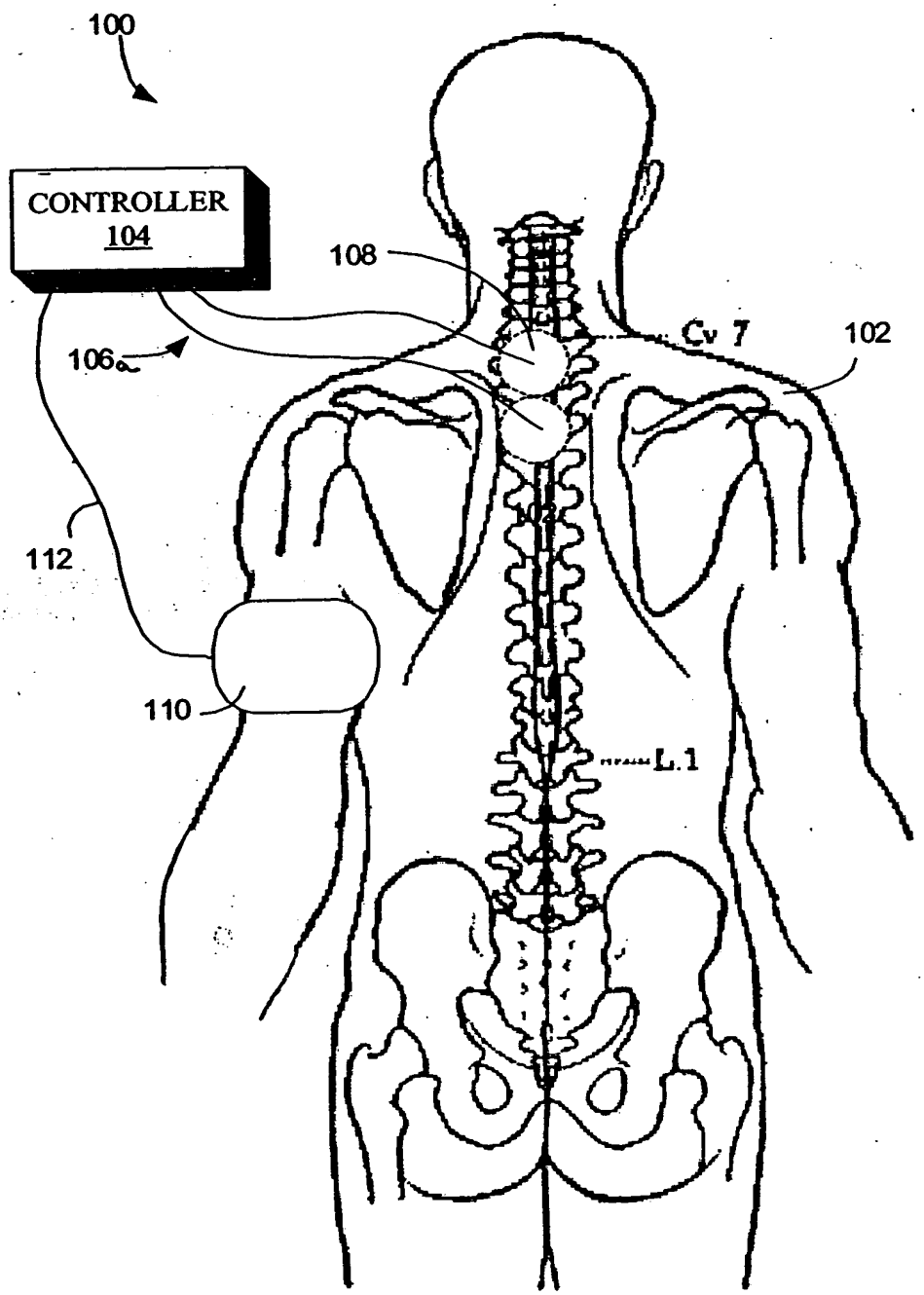
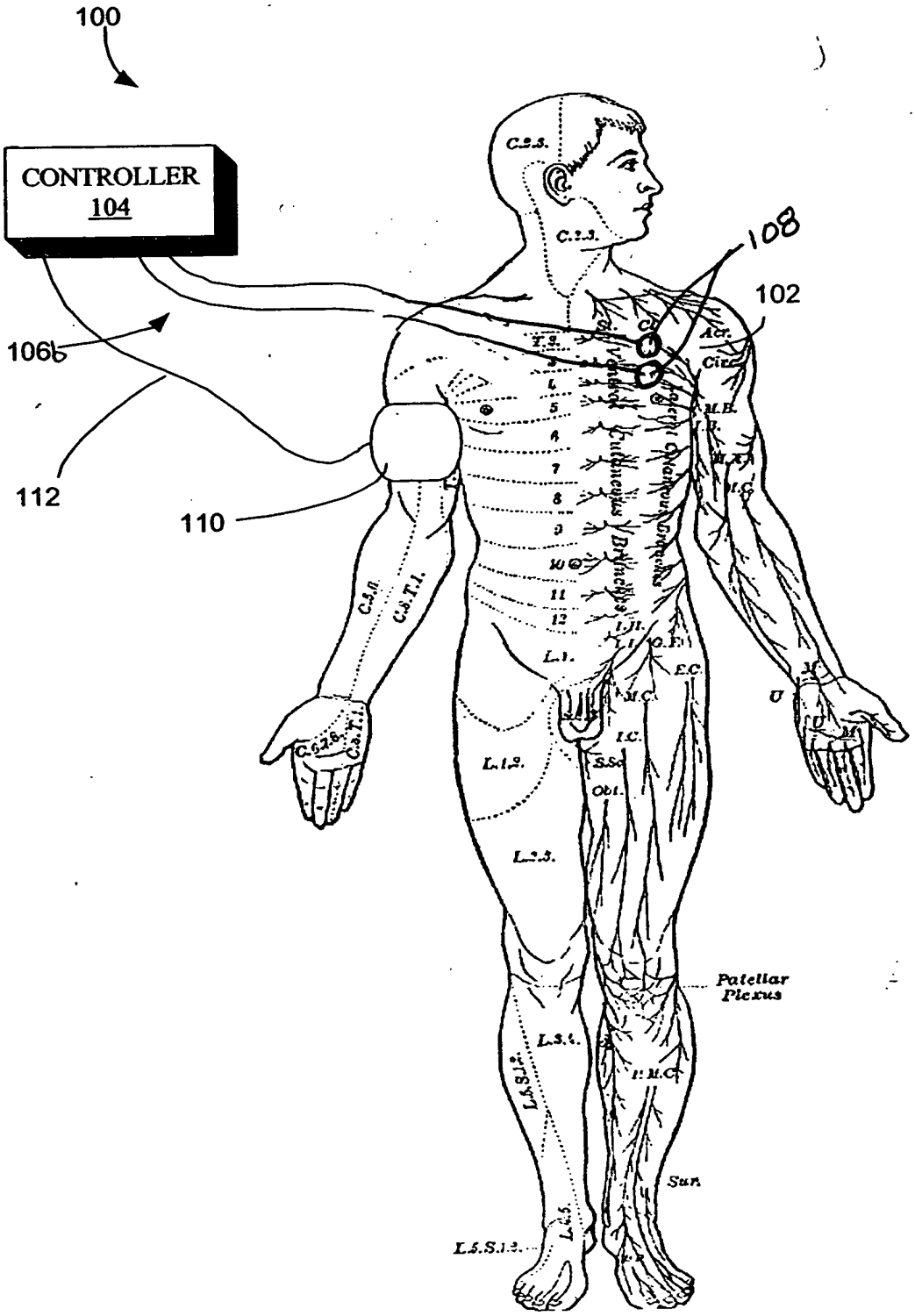


Figure 1B



Patent Pending

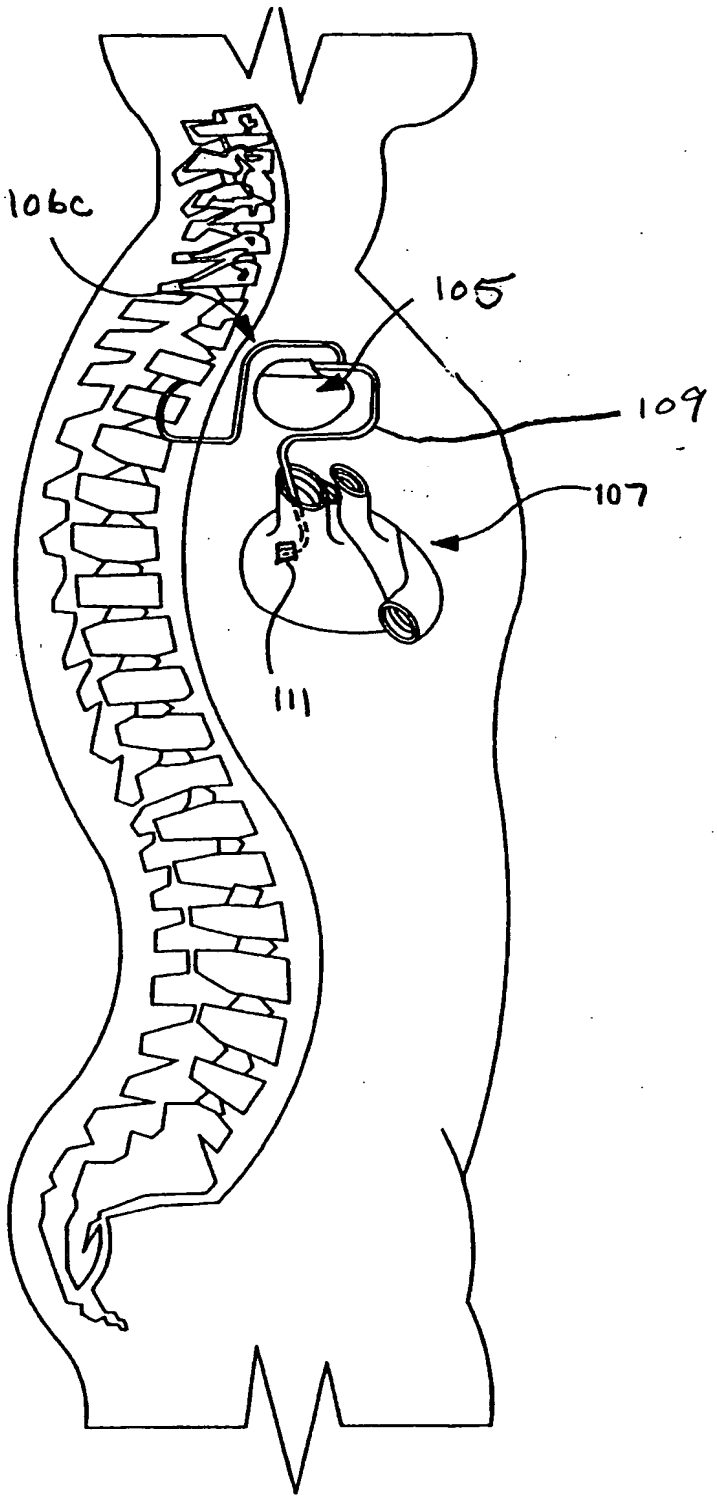


Figure 1C

Figure 2

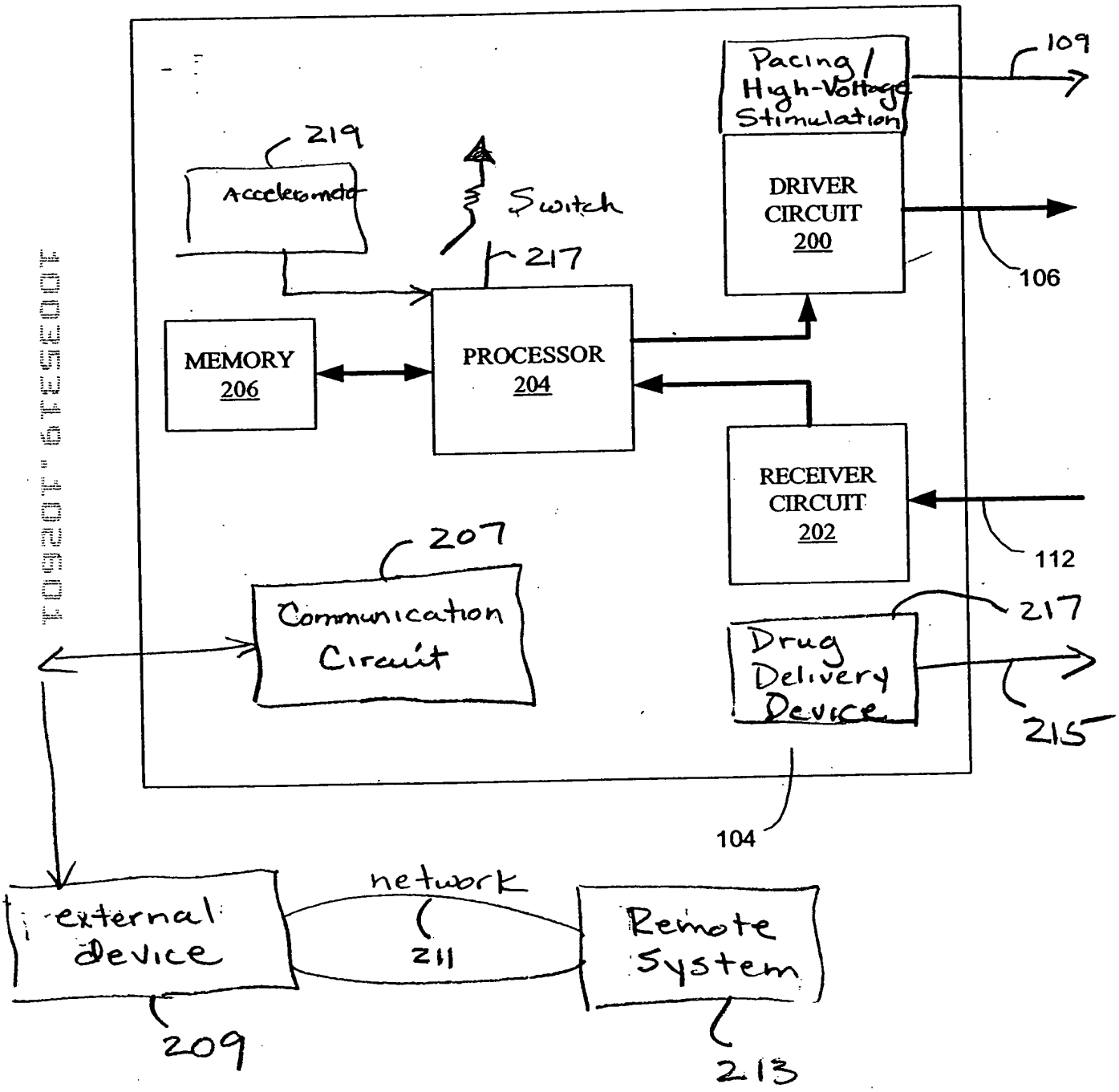

Pacing / High-Voltage Stimulation
109
219
Accelerometer
Switch
217
DRIVER CIRCUIT 200
106
MEMORY 206
PROCESSOR 204
RECEIVER CIRCUIT 202
112
207
Communication Circuit
217
Drug Delivery Device
215
104
network
211
external device
209
Remote System
213

Figure 3

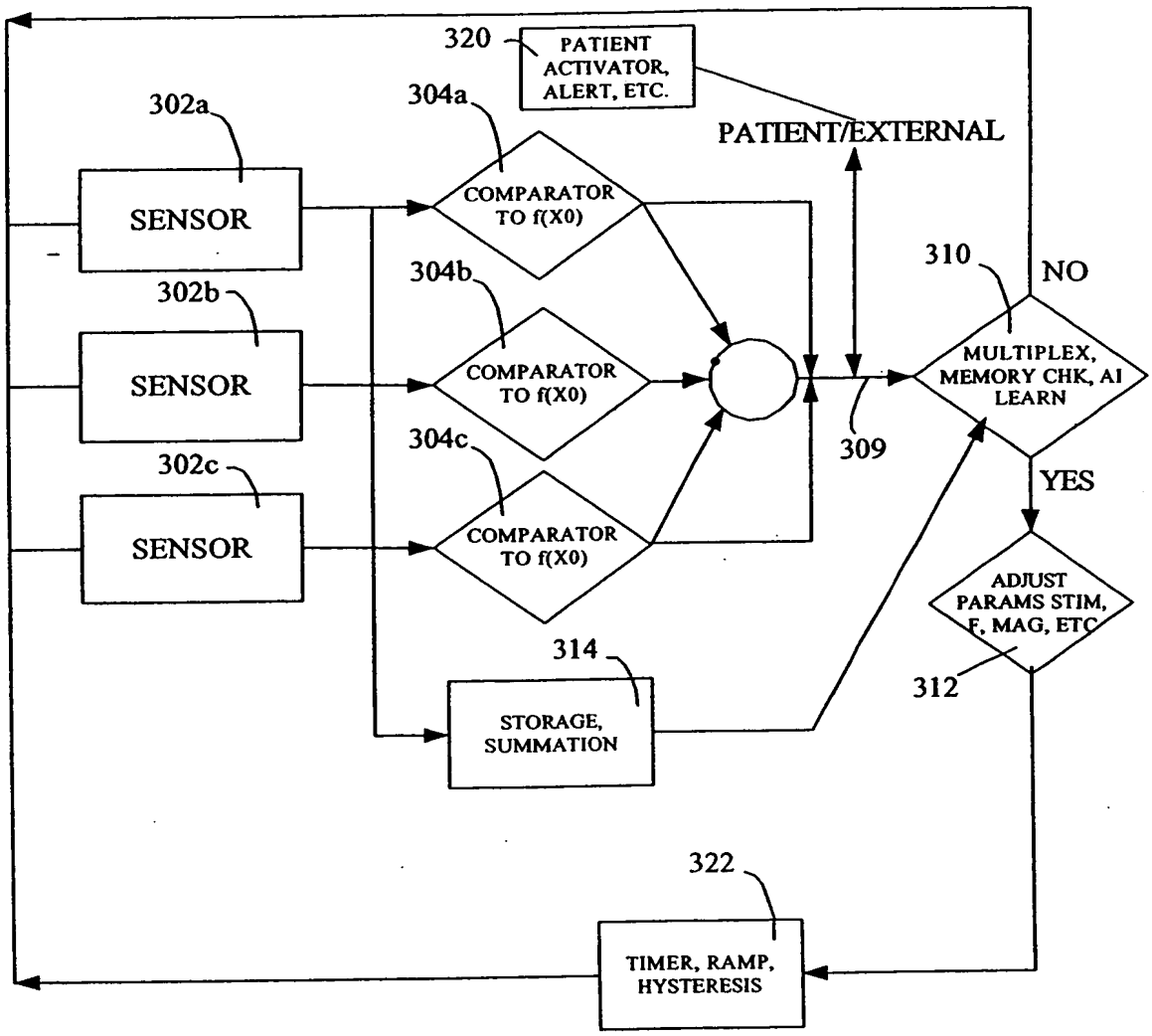


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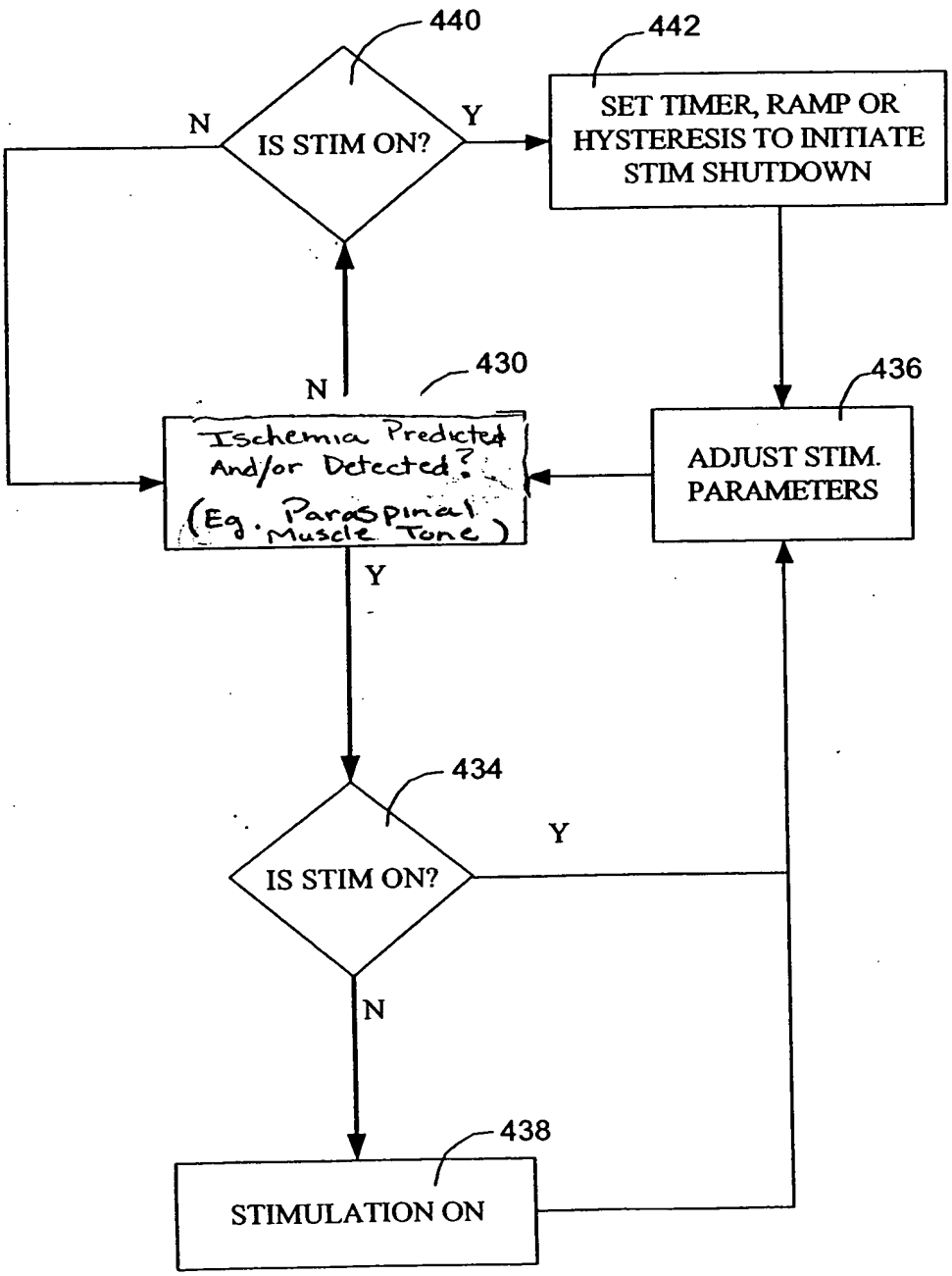
Figure 4


440
442
IS STIM ON?
N
Y
SET TIMER, RAMP OR HYSTERESIS TO INITIATE STIM SHUTDOWN
N
430
436
Ischemia Predicted And/or Detected? (Eg. Paraspinal Muscle Tone)
ADJUST STIM. PARAMETERS
Y
434
IS STIM ON?
Y
N
438
STIMULATION ON

T09207 6TE5E00T

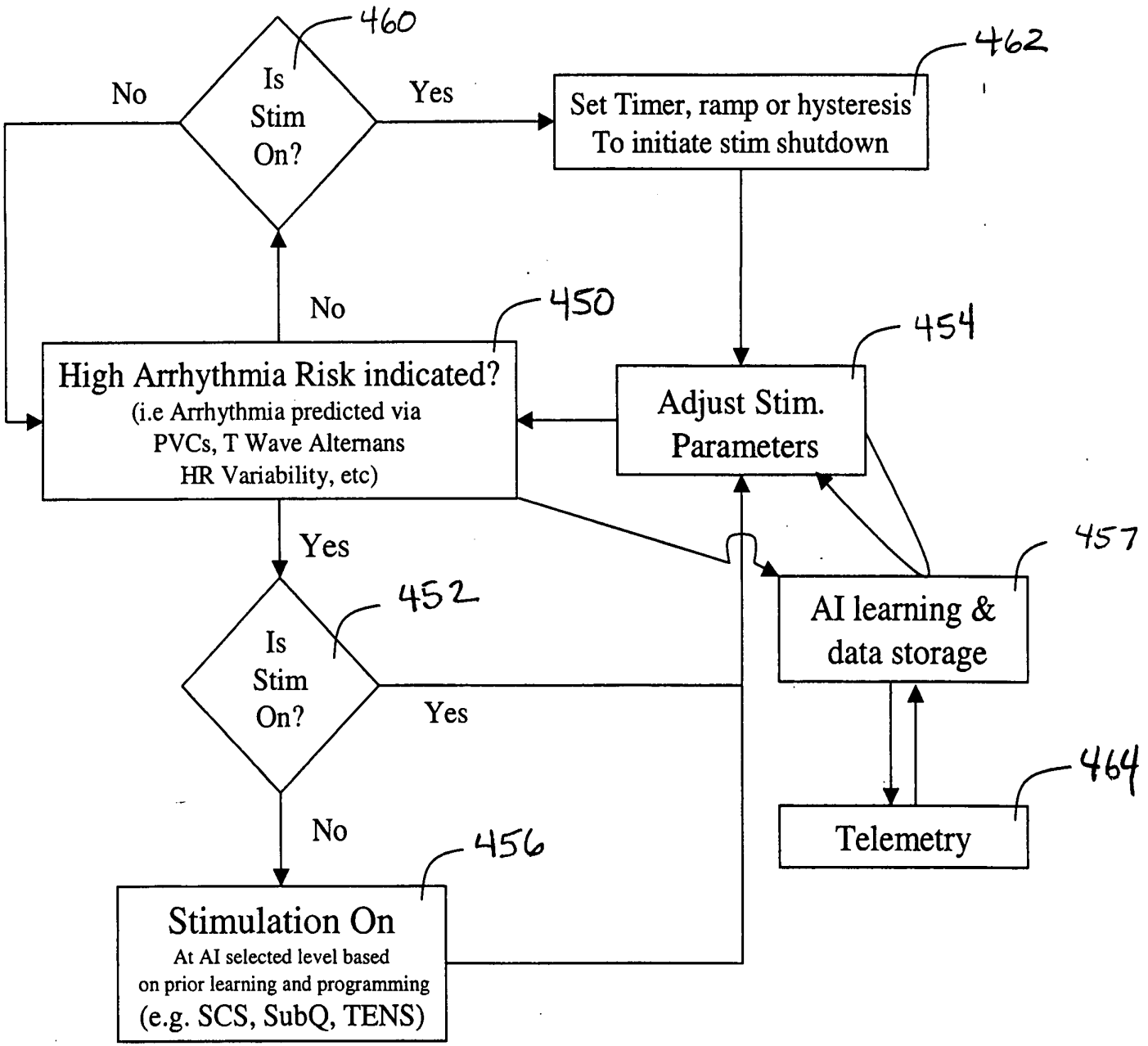


Figure 5

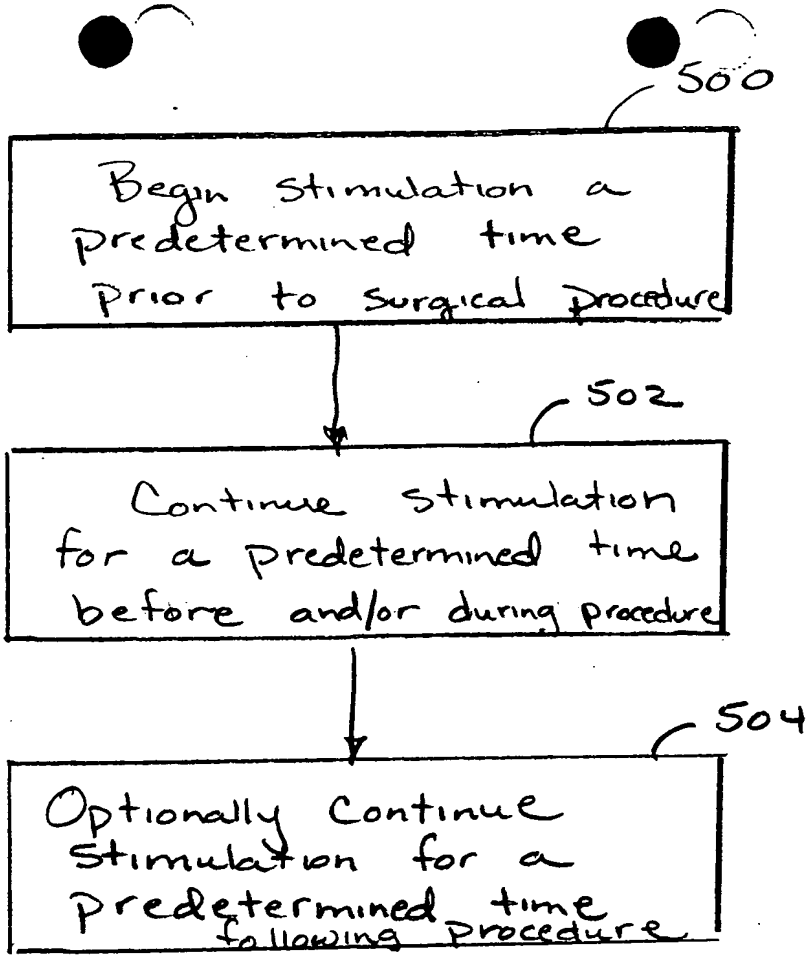

500
Begin stimulation a predetermined time prior to surgical procedure
502
Continue stimulation for a predetermined time before and/or during procedure
504
Optionally Continue Stimulation for a predetermined time following procedure

Figure 6A

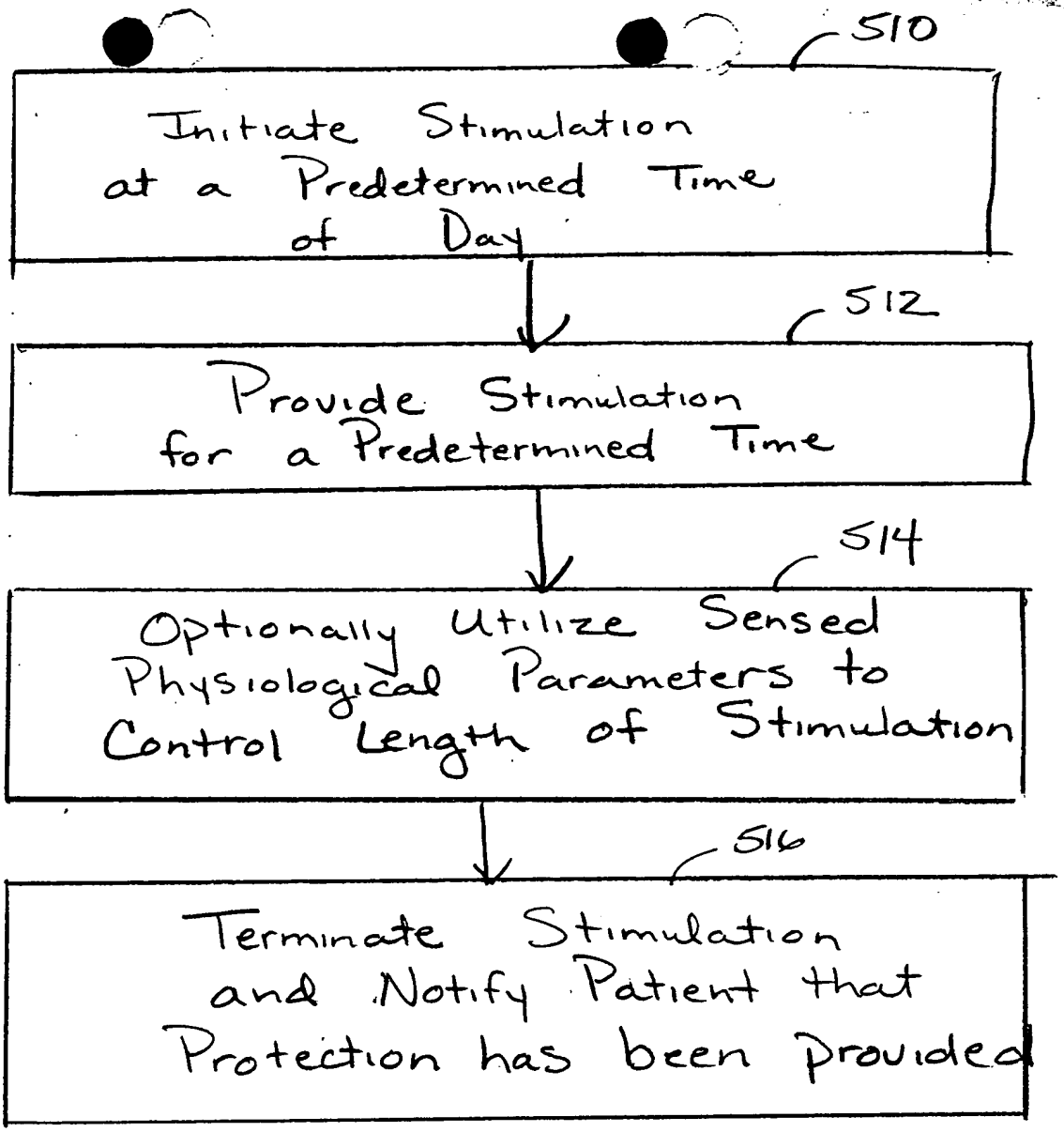


Figure 6B

Proprietary - Medtronic

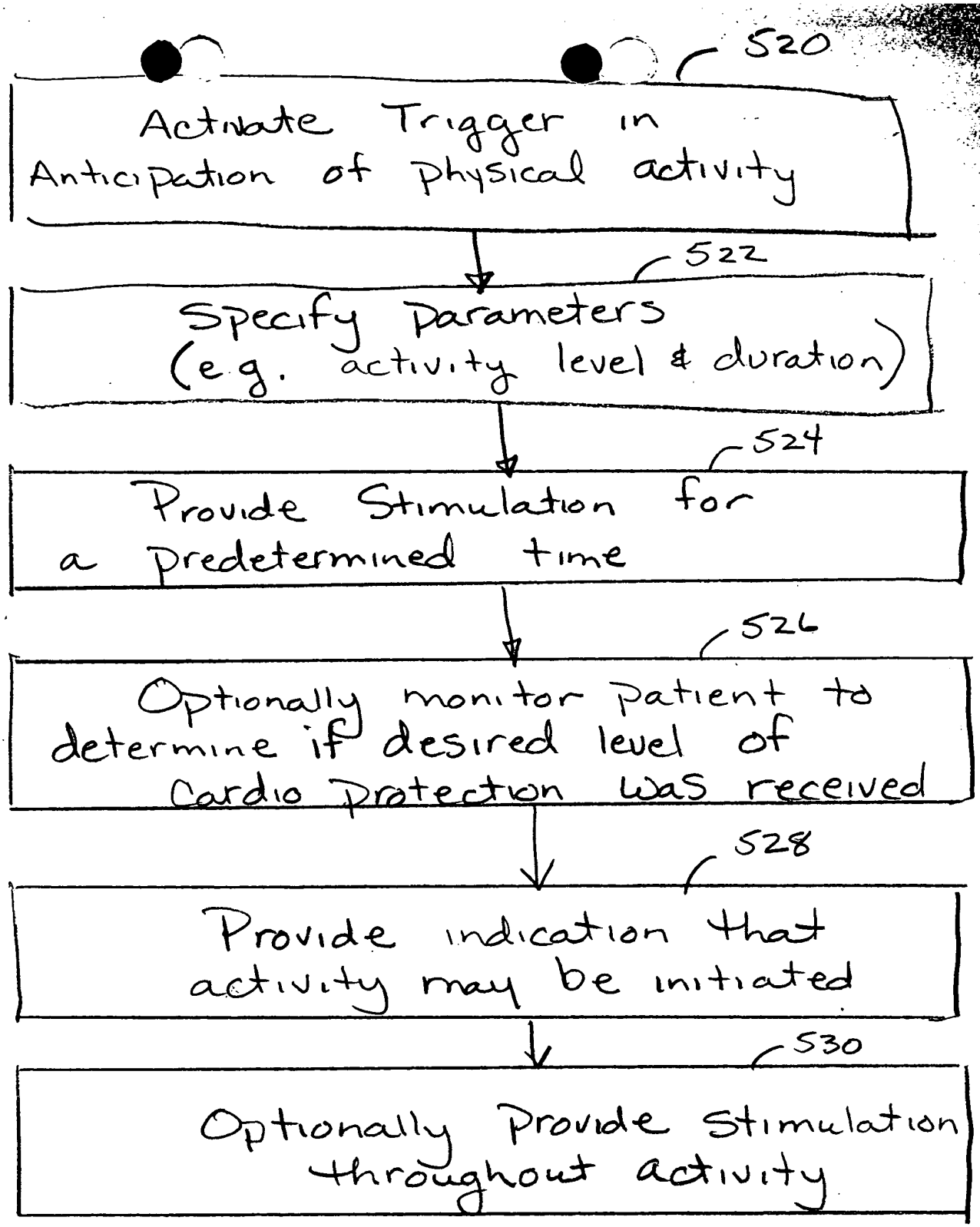

520
Activate Trigger in Anticipation of physical activity
522
Specify parameters (e.g. activity level & duration)
524
Provide Stimulation for a predetermined time
526
Optionally monitor patient to determine if desired level of Cardio Protection was received
528
Provide indication that activity may be initiated
530
Optionally Provide Stimulation throughout activity

Figure 6C

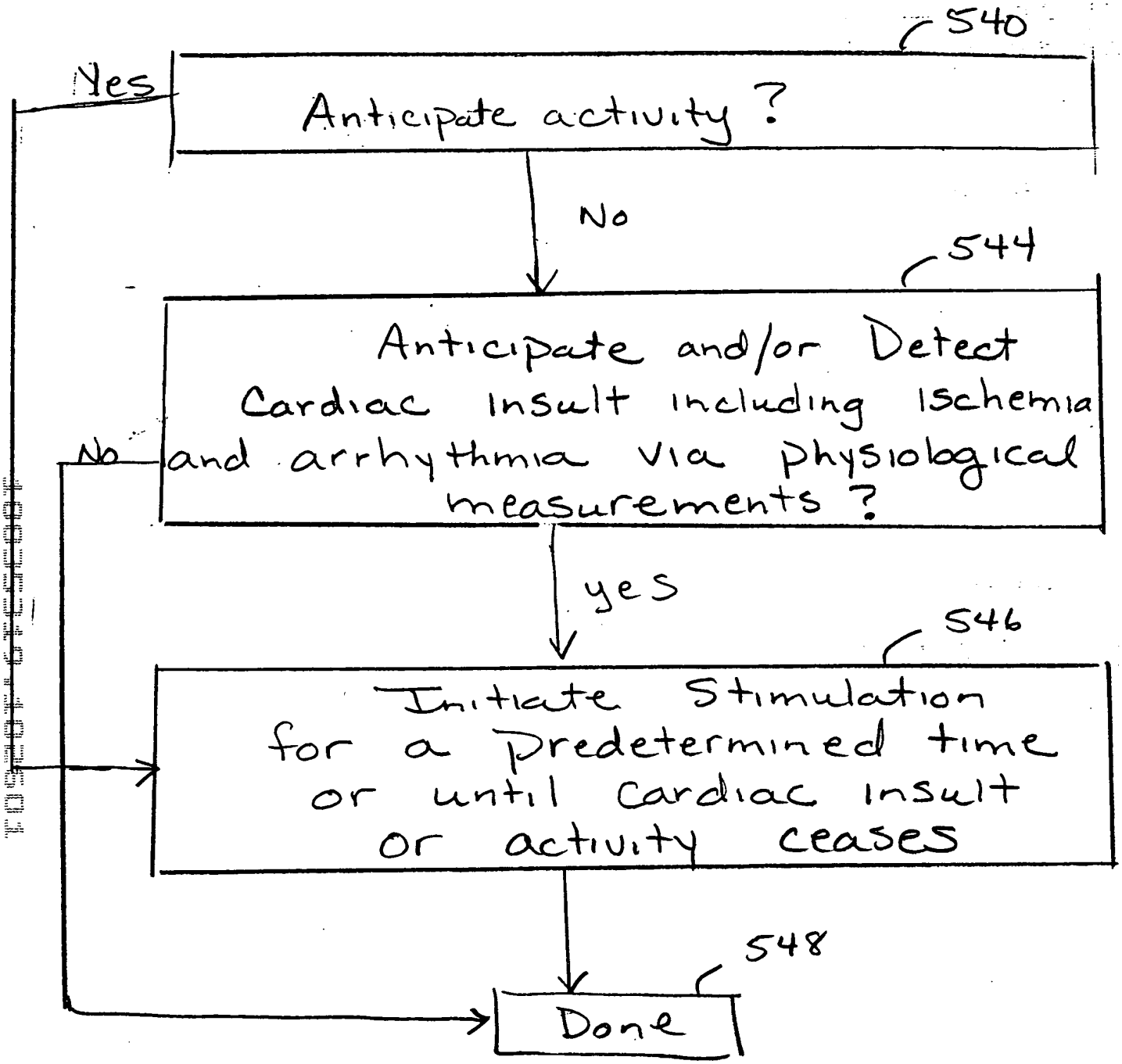

540
Yes
Anticipate activity ?
No
544
Anticipate and/or Detect Cardiac Insult including Ischemia and arrhythmia via physiological measurements ?
No
yes
546
Initiate Stimulation for a predetermined time or until cardiac insult or activity ceases
548
Done

Figure 6D

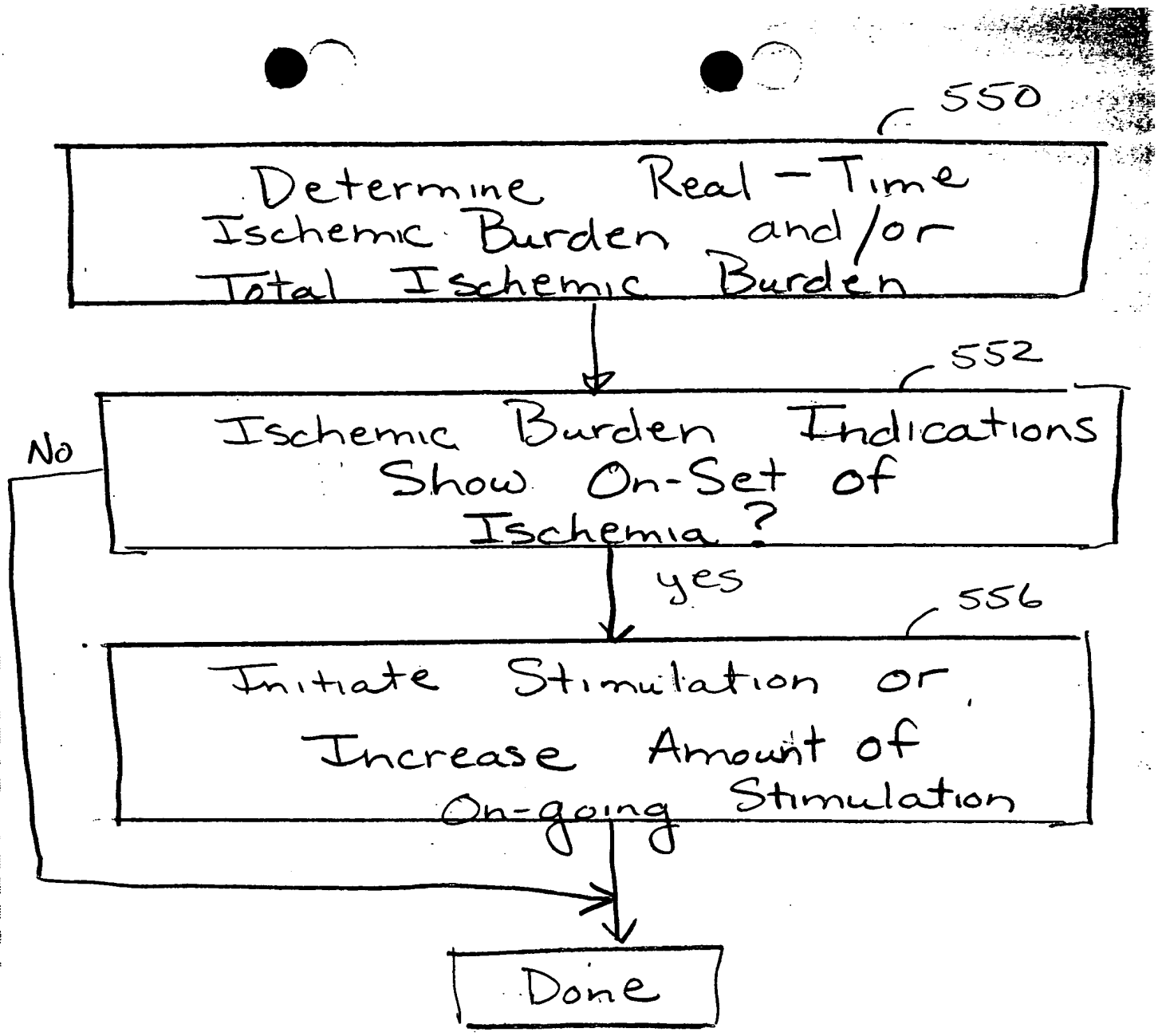

550
Determine Real-Time Ischemic Burden and/or Total Ischemic Burden
552
Ischemic Burden Indications Show On-Set of Ischemia?
No
yes
556
Initiate Stimulation or Increase Amount of On-going Stimulation
Done

Figure 6E

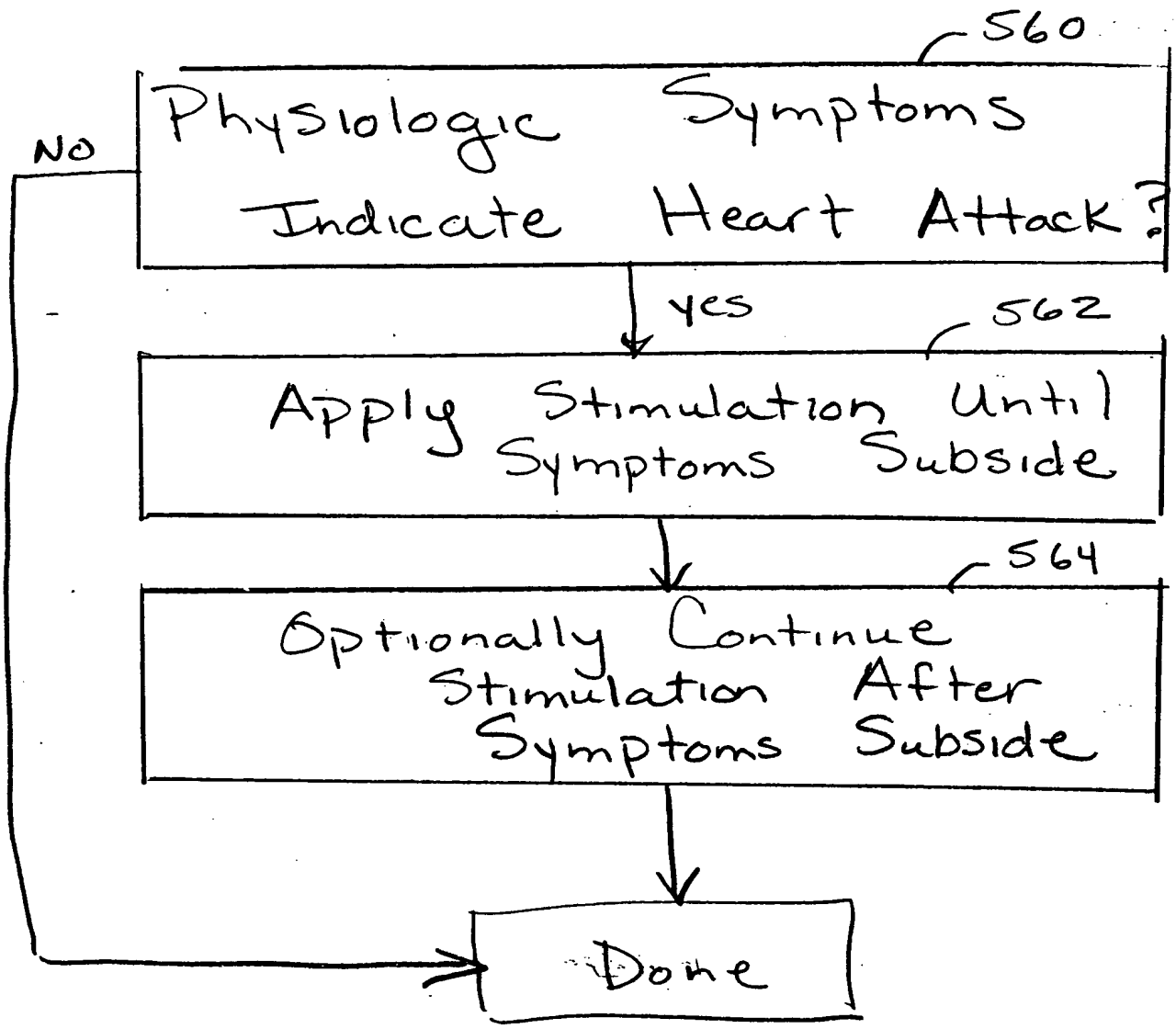

560
Physiologic Symptoms Indicate Heart Attack?
NO
YES
562
Apply Stimulation Until Symptoms Subside
564
Optionally Continue Stimulation After Symptoms Subside
Done

Figure 6F